of warm air superposed by strata of cold air (which I surmise is the prevailing condition on foggy nights) the whole atmosphere is in a state of unstable equilibrium; if you can construct a stack leading from the cooler air down through the warm air to the earth's surface, will not the cool air descend and spread over the surface, gradually lifting the warmer air it displaces, and will not that produce rain?

[See the Editor's notes on page 113.]

NOTES BY THE EDITOR.

WILLIAM H. HAMMON.

It is so rare that an official of high standing in the Weather Bureau resigns his position, that we are persuaded that the recent resignation of Prof. W. H. Hammon must have been the result of overpowering inducements and persuasive offers from other parties. We certainly hope that coming years will bring to him the profit and the pleasure that he evidently anticipates. By his acceptance of a position in the Philadelphia Gas Company at Pittsburg, Pa., Professor Hammon is brought back to his old family home and enters upon a business career of great promise, but the Weather Bureau loses one of its ablest men.

Mr. Hammon was born in Dicksonburg, Pa., and is a graduate of Allegheny University, and a post graduate of Cornell University. He entered the meteorological work of the Signal Service in July, 1882, and went for instruction to Fort Myer, Va. His first official assignment was as assistant at Charleston, S. C. In May, 1884, he was assigned to duty in connection with the physical laboratory of the Signal Office, where he assisted Prof. Thomas Russell and his successor, Prof. T. C. Mendenhall. Becoming interested in the exploration of the upper air, he volunteered to perform the meteorological work to be carried out in a series of balloon voyages during the first few months of 1885. This work, and the investigation of the apparatus incident thereto, was executed in an excellent manner, and his report, which could not be published at that time, afterward appeared in the American Meteorological Journal for February, 1891, Vol. VII, p. 498–528.

Mr. Hammon was subsequently in charge of stations at Ithaca, Cleveland, and St. Louis, and in May, 1894, was placed in charge of the San Francisco station and forecast district, the latter embracing the States of California, Nevada, Arizona, and Utah. By his administration of this latter charge, during the past five years, he has made for himself an enviable reputation for energy and efficiency. His forecasts of frosts and rains have been universally recognized as extremely reliable and timely. His latest bulletin "Frost: When to expect it and how to lessen the injury therefrom," shows that he has devoted much thought to this subject, and, in response to urgent demands, a large edition of it has been printed.

Mr. Hammon was appointed local forecast official in July, 1891; forecast official in August, 1894; professor of meteorology in January, 1899; his resignation takes effect March 31, 1899.

THE PACIFIC COAST DIVISION OF THE CANADIAN METEOROLOGICAL SERVICE.

It is probably known to only a few of our readers that in the summer of 1898 the Canadian service established a Pacific coast division, with headquarters at Victoria, B. C., where forecasts will be made by Mr. F. Napier Denison.

Mr. Denison expects to issue daily maps and forecasts for his division similar to those issued by the United States Weather Bureau officials at San Francisco and Portland, Oreg. A complete interchange of daily telegraphic reports takes place between these two branches of our respective national weather services, so that the information available to one is also accessible to the other, the only difference being that reports coming in by mail are interchanged more slowly than those by telegraph. Through the kindness of Mr. Denison, the Editor has received a copy of the daily map prepared by him and the northwestern quarter of this map is reproduced on Chart X. The original base map extends from the Pacific coast eastward to the eighty-fifth meridian, and from latitude 30° N. to 70° N. This places the boundary between the United States and the Dominion of Canada nearly in the center of the sheet, 16 inches broad by 17 inches high. The polyconic projection is adopted, the scale being practically the same as that of the daily map published by the Weather Bureau in Washington and by the meteorological office in Toronto, respectively. In our present reproduction we have added, in dotted lines, the approximate courses of a few lines of telegraph, so that the reader may appreciate how rapidly this country is being opened up, and what are the immediate possibilities of a still further extension of the daily telegraphic weather map. As the upper left-hand corner of Mr. Denison's daily weather map embraces the lower portion of the Territory of Alaska, we have added the new Weather Bureau station at Eagle, and the post route at present adopted for United States mails. The following extract from Mr. Denison's letter will excite the most lively interest in the minds of those who realize how far the forecasts of weather in the United States depend upon by a knowledge of what is transpiring in that distant region.

This is certainly an ideal field for studying the various weather changes, which, as you know, are more difficult to anticipate here than further east, however, I am getting a grand insight into some of the complex problems, and I hope during this summer by studying last winter's charts, to be able to do some really valuable forecasting. As it is the public appreciates our work, and thinks we are doing very well. We are now using a new chart, specially designed for future expansion northward, even including Dawson, which most certainly will be made one of our telegraphic stations as soon as the projected wire communication is completed. I send you under separate cover a copy of one filled in, showing how after receiving Port Simpson by mail we are even now able to draw our isobars far further north than heretofore, and locate more accurately the true position of the north Pacific "highs" and "lows."

MIROBIA AND SEICHES.

In the MONTHLY WEATHER REVIEW for December, 1898, page 563, we have quoted a paper by Mr. F. Napier Denison, in which he states that the term *mirobia* was first introduced to English readers by Admiral Smythe as a word used at Malta as the name of regular recuring waves similar to the seiches of the lakes in Switzerland. Mr. Denison has been studying the same phenomena on the Great Lakes, and for fear least the Editor may have misunderstood Mr. Denison's position in this matter, the latter writes as follows:

You seem to think I have taken up the study of water undulations on both lakes and ocean as of more value in a meteorological point of view than the study of the atmospheric waves shown on the various barographs, which latter waves I have tried to prove set up the water undulations. Now this was never intended. I have been endeavoring simply to draw attention to the fact that as the water surface responds to the passage of atmospheric waves over it, therefore the records from tide gauges would often show marked undulations at stations where no barographs are; or even should the latter be also there, only the largest undulations will be seen, as the present instrument in common use gives a weekly curve which means too small a time scale and baro-